TETRA TECH

Kevin Scott
Project Manager

September 5, 2017

Mr. Robert Egan
Corrective Action Manager
Underground Storage Tanks Section
Resource Conservation and Recovery Act Branch
U.S. EPA Region 5
77 W Jackson Blvd (LR/17J)
Chicago, IL 60604

Subject: **FINAL Work Plan for Tower Standard Leaking Underground Storage Tank (LUST) Site**
Lac du Flambeau, WI
Contract No. EP-S5-13-01
TDD No. 0020/S05-0020-1708-008
DTN: 2029

Dear Mr. Egan:

Tetra Tech is providing its work plan for the above-reference Site. Our attached work plan provides a detailed description our technical approach responding to the Scope of Work, including: (1) background and site history, (2) technical approach, (2) deliverables and schedules, and (3) staffing plan.

Please contact me at 312-201-7739 if you should have any questions.

Sincerely,

Kevin Scott
Project Manager

cc: Kevin Scott, START Program Manager
TDD File

Tetra Tech, Inc.
1 S. Wacker Dr. Suite 3700, Chicago, IL 60606
Tel 312.201.7700 Fax 312.201.0031
www.tetratech.com

WORK PLAN FOR TOWER STANDARD LEAKING UNDERGROUND STORAGE TANK SITE LAC DU FLAMBEAU, WISCONSIN

Prepared for

U.S. Environmental Protection Agency
Region 5
77 W. Jackson Blvd.
Chicago, IL 60604

Submitted by

Tetra Tech Inc.
1 South Wacker Drive
Chicago, IL 60606

EPA Contract No. EP-S5-13-01
TDD No. 0020/S05-0020-1708-008
DTN: 2029

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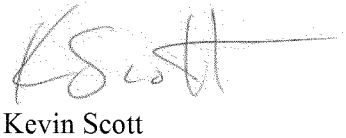
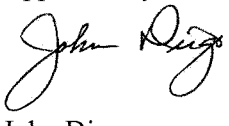
Prepared by



Kevin Scott
Project Manager

Approved by



John Dirgo
START QC Reviewer

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1.0 INTRODUCTION

Tetra Tech, Inc., (Tetra Tech) prepared this work plan in response to TDD 0020/S05-0020-1708-008, under Contract EP-S5-13-01 with the U.S. Environmental Protection Agency Region 5 (EPA). The Scope of Work (SOW) directs Tetra Tech to support technical and cost aspects of an Interim Measure Source Area Corrective Measures Study and Detailed Cost Analysis (IMCMS/CA). Specifically, this work plan addresses three alternatives to remediate source area contamination at the Site. Table 1 provides a summary of Site information and the project purpose.

Table 1. Site Summary Information and Project Purpose

Site Name:	Tower Standard LUST Site (aka Haskell Lake Petroleum Contamination Site)
Site Location:	Intersection of State Highway 70 and County Road D, Lac du Flambeau, Wisconsin (on fee land within the Lac du Flambeau, Indian Reservation
Current Site Use: Inactive	
Site Background Summary:	The site operated as the Tower Standard gas station from the 1940s until 1996. Six underground storage tanks were on the property, five containing leaded or unleaded gasoline and one containing waste oil. The six tanks were removed in 1997. After the gas station closed the building was used as a bait shop until about 2105. The building on the site has been boarded to prevent access.
Environmental Information:	The current understanding of the site indicates smear zone contamination in the source area, most of which is contained on the restaurant property to the east of the former tank pit. This source area is continuing to contaminate shallow groundwater. Contaminants have also migrated deep into groundwater and are migrating toward the lake, but the bulk of the plume mass may be deeper than the lake bed. Private wells are not presently contaminated by the release at the site and vapor intrusion sampling does not indicate unacceptable levels; no one is currently known to be exposed to the contaminated soils. Investigations are ongoing and a pilot study is planned for the site.
Project Purpose: Tetra Tech will prepare an Interim Measure Corrective Measures Study and Detailed Cost Analysis for source area remedial alternatives. Tetra Tech will conduct technical and cost evaluations for three alternatives (1) excavation; (2) air sparge/soil vapor extraction (AS/SVE); and (3) excavation with AS/SVE. The remedial alternatives will be evaluated regarding their ability to eliminate, reduce or control risk to human health and the environment.	

2.0 PROJECT BACKGROUND

This section presents background information on the Tower Standard LUST (Tower Standard) Site.

2.1 SITE LOCATION

The Tower Standard Site is located on fee land within the Lac du Flambeau (LDF) Indian Reservation at the intersection of State Highway 70 and County Road D near Lac du Flambeau, Wisconsin. The Site is bordered on the north by State Highway 70, to the south by a small pond and Haskell Lake, to the east by a vacant property (formerly a restaurant) and to the southwest by the Haskell Lake Lodge motel. A fireworks shop was formerly located to the north across Highway 70. Homes with private wells, some on

tribal trust land, lie on the east and west sides of Haskell Lake. The Site property covers about ½ acre. The LDF tribe refers to Tower Standard Site as the Haskell Lake Petroleum Contamination Site.

2.2 SITE HISTORY

The Tower Standard gas station was built in the early 1940s and operated until 1996. Following closure of the gas station, the former gas station building was used as a bait shop in the summer months until 2015. Six underground storage tanks were located on the property; five contained leaded or unleaded gasoline and one contained waste oil. All tanks were removed in 1997.

2.3 SITE-SPECIFIC BACKGROUND INFORMATION

Site specific information for the Tower Standard Site is presented in Table 2.

Table 2. Site Specific Information

Site Address:	Intersection of State Highway 70 and County Road D, Lac du Flambeau, Wisconsin (on fee land within the Lac du Flambeau, Indian Reservation)
Site Latitude/ Longitude:	45°54'49.97" North, 89°54'47.74" West
Site Size/Shape:	On-half acre, approximately 166 feet by 140 feet, square
Site History (when/why site was originally developed, past uses/operators, current use, proposed future use):	The Tower Standard gas station operated at the site from the early 1940s until 1996. Six underground storage tanks were on the property, five containing leaded or unleaded gasoline and one containing waste oil. The six tanks were removed in 1997. After the gas station closed, the former gas station building was used as a bait shop in the summers until about 2015. Future uses proposed for the site are not indicated in the available background information for the Site.
Existing Environmental/ Geologic Information:	Petroleum releases (gasoline) from the tanks have impacted soil and groundwater. Since 1997, site investigations identified contaminated soil and groundwater contamination beneath the former tank pit. A private well at the site and a well at an adjacent motel (directly southwest of the site) were replaced when benzene contamination was identified. A monitoring well network and groundwater pump and treat system were installed. The State closed the site in 2006, although soil and groundwater was still present; at that time, contamination was thought to be restricted to an area at, and near, the Site. Subsequent environmental investigations in the area, identified strong petroleum odors and groundwater contamination moving toward Haskell Lake (south of the site). The State reopened the site in 2014 and further site investigation has been implemented with involvement by the State, the Responsible Party's (RP) contractor, EPA, and the LDF tribe. The current understanding of the site indicates smear zone contamination in the source area, most of which is upon the restaurant property to the east of the former tank pit. This source is continuing to contaminate shallow groundwater. Contaminants also has migrated deep into groundwater and are migrating toward Haskell Lake (south of the Site), but the mass of the plume may lie below the lake bed. Private wells are not presently contaminated by the release at the site and vapor intrusion sampling does not indicate unacceptable levels; no one is currently known to be exposed to the contaminated soils. Investigations are ongoing.

3.0 PROJECT APPROACH

This section presents general requirements, key project personnel, and Tetra Tech's technical approach for the proposed scope of work.

3.1 GENERAL REQUIREMENTS FOR THE WORK

Tetra Tech will implement an IMCMS/CA, including: a detailed technical evaluation, cost analysis, and technical recommendation for remedial alternatives to address remaining source area contamination at the Site. Three remedial alternatives will be considered: (1) excavation (2) air sparge/soil vapor extraction (AS/SVE) and (3) excavation with AS/SVE; Tetra Tech understands that EPA has evaluated and screened out the No Action alternative and that other remedial technologies involving the injection of chemicals into the groundwater are not acceptable to the LDF tribe.

Tetra Tech will furnish necessary and appropriate personnel, materials and services to perform this work (generic CMS Scope of Work provided with Technical Direction Document). Tetra Tech will communicate at least weekly with the EPA Task Order COR (COR), Robert Egan, through face-to-face meetings or conference calls. Tetra Tech will maintain technical and financial records for the IMCMS/CA. EPA and Tetra Tech will use electronic media whenever possible.

EPA will oversee Tetra Tech's activities throughout the IMCMS/CA. EPA will review deliverables to assess the likelihood that the IMCMS/CA will achieve its goals and that its performance requirements have been met. Tetra Tech will submit an official record of the IMCMS/CA in both CD and a hardcopy to the COR at the end of the project.

Given EPA priorities for the site, this scope of work will be completed in November 2017.

3.2 KEY PROJECT PERSONNEL

Table 3 presents key project personnel and contact information for EPA and Tetra Tech.

Table 3. Key Project Personnel and Contact Information

Role	Name	Agency/ Company	Phone Number	Email Address
EPA				
EPA PO:	Sam Chummar	EPA Region 5	312.886.1434	sam.chummar@epa.gov
EPA COR (Primary Project Contact):	Robert Egan	EPA Region 5	312.886.6212	robert.egan@epa.gov
Tetra Tech				
R5 START Program and Project Manager	Kevin Scott	Tetra Tech	303.201.7739 (office) 856.217.6072 (cell)	kevin.scott@tetratech.com
START Supervising Lead Engineer	Dave Berestka, P.E.	Tetra Tech	303.312.8856 (office) 303-870-9669 (cell)	david.berestka@tetratech.com
START Project Engineer	Chit Christian	Tetra Tech	303.312.8863 (office) 720-935-6682 (cell)	chit.christian@tetratech.com
START Quality Control Reviewer	John Dirgo	Tetra Tech	(312) 201-7765 (office)	john.dirgo@tetratech.com

Notes: EPA = U.S. Environmental Protection Agency; P.E. = Professional Engineer; PO = Project Officer; COR = Contract Officer Representative; START = Superfund Technical Assessment and Response Team.

3.3 TECHNICAL APPROACH TO TASKS

Tetra Tech will provide support for an ICMS/CA addressing remedial alternatives being considered for the Tower Standard Site. Project tasks are described in the following subsections.

3.3.1 Task 1: Implement Project Planning and Support

Tetra Tech will implement project planning and support to ensure work addresses EPA needs for the IMCMS/CA.

3.3.1.1 Implement Project Planning

This task includes efforts related to project initiation, as follows:

3.3.1.1.1: Attend Kickoff Meeting - Tetra Tech and EPA participated in a kick-off on August 29, 2017 by phone. This call was attended by the key project personnel indicated in Table 1 (minus John Dirgo). During this call, Tetra Tech and EPA reviewed the scope of work, site history, stakeholder interests, and requirements and schedule for the work. Given the expedited schedule for the work, this meeting also included fact finding to support work plan development (see Task 1.1.4.2.1 of the SOW).

3.3.1.1.2: Conduct Site Visit (Optional) - During the kick-off meeting, Tetra Tech and EPA agreed that a site visit would not be required at this time. To expedite work, Tetra Tech began reviewing background documents and prepared this work plan. While no site visit is conducted, Tetra Tech is including hours for technical staff to review the background data and reports provided by EPA to support work plan preparation. EPA noted that a pilot study is planned for the site, but this work will occur following with Tetra Tech's IMCMS/CA support.

3.3.1.1.3: Evaluate Existing Information - During the kick-off meeting, EPA shared background information, told Tetra Tech to access information from the EPA On-Scene Coordinator (OSC) public access web site (https://response.epa.gov/) and stated it will add additional access permissions for the key project team. Tetra Tech downloaded information including data files, reports, and notes from meetings/calls. Tetra Tech began reviewing this information to support work plan development and ICMS/CA planning. Existing background data and documents, include: (1) Tech Memos for the Tower Standard Site from Bristol Environmental Services, Inc.; (2) Three-Dimensional Imagery and Report from S2C2, Inc.; and (3) Site Analytical Data.

3.3.1.1.4: Prepare IMCMS/CA Work Plan - Tetra Tech prepared this work plan to document planned activities, schedules, staffing plans, and estimated costs. As directed by EPA and the SOW, this IMCMS/CA work plan identifies SOW elements and the associated tasking including review of: site documentation, previous field sampling and analysis activities, treatability study activities, and other available information. It also incorporates verbal information and direction from EPA during the kick-off meeting to clarify the SOW. Tetra Tech revised this work plan based on comments provided by EPA on September 5, 2017.

3.3.1.2 Implement Project Management

Tetra Tech will implement project management including: management and tracking of costs, preparation of Monthly Progress Reports, attendance at project meetings, and preparation and submittal of invoices. The period of performance is currently through November 30, 2017. Tetra Tech also will participate in meetings and conference calls to share and review project progress. We estimate 5 meetings, with 1 to 2 Tetra Tech staff in attendance, for a total of 15 hours.

3.3.2 Task 2: Analyze Alternatives and Prepare IMCMS/CA Report

Tetra Tech will conduct research, evaluations, and documentation to prepare a draft and final IMCMS/CA Report. Based on the EPA SOW and direction from the EPA kick-off meeting discussion on August 29,

2017, Tetra Tech will evaluate three interim remedial measure alternatives to address the source area at the site. Tetra Tech will evaluate: (1) excavation of contaminated soil, (2) AS/SVE, and excavation with AS/SVE.

Tetra Tech will review background documents, including those indicated in Section 3.3.1.1.3. Tetra Tech will also incorporate information on current site conditions noted by EPA during the kick-off meeting on August 29, 2017, including: (1) the on-site site buildings are not used, (2) vapor intrusion studies to date have not indicated an off-site building concern, (3) groundwater contamination is migrating to the lake, and (4) contamination extends to bedrock at about 60 feet below ground surface (with shallow water table at 8-9 feet below ground surface), (5) tribal preferences are that non-native materials should not be injected into the ground, that remedial system air emissions should be treated, and that all remediation-derived waste should be disposed off site even if treated on site. EPA follow-up items from the kick-off meeting include checking with the tribe regarding whether ozone or oxygen sparging would be acceptable for injection, instead of traditional air sparging.

3.3.2.1 Analyze Alternatives and Prepare Draft IMCMS/CA Report

For this task, Tetra Tech will review background information, discuss the Site with the EPA, technically evaluate three remedial alternatives, conduct a cost analysis, and document findings and recommendations. As directed by EPA, Tetra Tech will omit two evaluation elements from Task II, Sections E and F of the guidance, specifically: (1) community acceptance and (2) state acceptance. Tetra Tech understands that EPA is addressing these consideration and is directing Tetra Tech to address the following technical and cost evaluation elements: (1) long-term effectiveness, (2) reduction in the toxicity, mobility or volume of waste, (3) short-term effectiveness, (4) implementability and (5) cost. At EPA's direction, Tetra Tech also will recommend additional sampling or treatability studies for EPA consideration to support design of a removal, treatment, or removal/treatment action based on its evaluation of the alternatives.

Tetra Tech will work with EPA to establish interim corrective measure objectives. Based on existing information and in consultation with EPA, Tetra Tech will identify site-specific objectives which are appropriate for the source area interim measure at the Site. Tetra Tech understands that site impacts are associated with gasoline constituents, rather than diesel fuel. The objectives will specify the contaminant(s) of concern (COC) and media of concern, the exposure route(s) and potential receptor(s), and an acceptable contaminant level or range of levels for each COC (that is, preliminary interim measure goals). As discussed during the kick-off meeting, the remedial objectives for the interim measure may be based on technology-limitations rather than on risk (that is, the target COC concentrations in the source-area may depend on what AS/SVE can achieve).

Tetra Tech's technical evaluation of the alternatives will include: (1) a description of each alternative that outlines the waste management/treatment strategy involved; and (2) a discussion that profiles the performance of that alternative with respect to each of the technical and cost evaluation criteria. Tetra Tech will include a table summarizing the results of this analysis. Once the individual analysis is complete, the alternatives will be compared and contrasted to one another with respect to each of the technical evaluation criteria. Tetra Tech also will integrate EPA direction regarding the potential use of ozone or oxygen to support the AS/SVE treatment alternative; EPA will follow-up with the tribe regarding these options following the kick-off meeting.

Tetra Tech also will evaluate the need for additional data, pilot-scale tests, or treatability studies for the alternatives to support implementation of the alternatives and include recommendations for this work if needed.

As part of its analysis, Tetra Tech will perform a detailed cost estimate for each alternative, including all aspects of site work to complete a project of this type, including, but not limited to: site access control and security, excavation shoring (for example, sheet piling), waste transportation and disposal costs, site

preparation and restoration costs, utilities, on-site waste treatment (if necessary), air emissions, sampling and analysis for corrective measures progress and completion, and mobilization/demobilization. The cost estimate will be prepared with an anticipated accuracy range of -30 to +50 percent, similar to a Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) technology evaluation cost estimate. Tetra Tech understands that EPA wants sufficient cost detail to evaluate each option and document the basis of cost to external stakeholders.

Based on direction from EPA, Tetra Tech will include cost considerations to accommodate tribal preferences related to introducing non-native materials to the site; and managing remedial action air emissions, remediation-derived waste solids and liquids. Remediation-derived wastewater may be trucked to a nearby town publically owned treatment works (POTW) or treated on site, then trucked off site for disposal.

After compiling its findings and recommendations, Tetra Tech will prepare the draft IMCMS/CA Report. The draft report will include items specified in the CMS Scope of Work Guidance as follows:

1. Identification and Development of the Corrective Measure Alternatives
    a. Description of the Current Situation
    b. Establishment of Media Cleanup Objectives
    c. Identification of the Corrective Measures Alternative(s) (addressing excavation and AS/SVE; Tetra Tech also will incorporate any EPA-provided language on screening out the No Action alternative)
2. Evaluation of the Corrective Measure Alternatives, including:
    a. Long-term Effectiveness
    b. Reduction in the Toxicity, Mobility or Volume of Wastes
    c. Short-term Effectiveness
    d. Implementability
    e. Cost
3. Justification and Recommendation of the Corrective Measure
4. Additional Recommendations for Remedy Implementation (not included in CMS Guidance, but included in the SOW to support implementation of the recommended remedy)

Tetra Tech will prepare the report and associated tables, figures, and attachments. Before submittal to EPA, the report will undergo Tetra Tech's Quality Control review process in accordance with Tetra Tech's Quality Management Plan for the START contract.

3.3.3.2 Prepare Final IMCMS/CA Report

After EPA reviews the draft IMCMS/CA Report, Tetra Tech will incorporate comments provided by EPA and submit the final IMCMS/CA Report.

3.3.3 Task 3: Post IMCMS/CA Support

Following completion of the IMCMS/CA Report, Tetra Tech will provide technical support as directed by EPA. Tetra Tech anticipates that this support may include the following activities: (1) attendance at technical meetings and briefings, and (2) presentation/meeting with the LDF tribe on the report's contents. We have included additional hours for this support to provide support to EPA in discussions with the tribe and for any follow-on support EPA directs related to pilot study or other technology-based needs.

4.0 SCHEDULE AND DELIVERABLES

Tetra Tech understands that IMCMS/CA Report support should be completed by November 30, 2017. Table 4 presents deliverables and associated schedule dates for each item based on the EPA SOW and discussions with EPA.

Table 4. Schedule of Deliverables

SOW Reference	Deliverable	Number of Copies*	Due Date
Task 1.1.4.1	Draft IMCMS/CA Work Plan	2	Tuesday, September 5, 2017 (submitted
Task 1.1.4.2	Revised IMCMS/CA Work Plan	2	5 days after receipt of comments from EPA on work plan
Task 2.1	Draft IMCMS/CA Report	2	21 days after approval of work plan
Task 2.2	Final IMCMS/CA Report	2	5 days after comments from EPA are provided on the Draft Report
Task 3	To be determined (TBD)	TBD	TBD
Notes: The work plan submittal date was agreed upon during the August 29, 2017, kick-off meeting call with the EPA Project Officer and EPA Contracting Officer Representative. As directed in the Record-Keeping Requirements of the Statement of Work (SOW), electronic deliverables are anticipated.			

5.0 STAFFING PLAN

Table 5 shows Tetra Tech's staffing plan and estimated hours by task for this work. Given the expedited schedule and focused technical needs, Tetra Tech's key staff include two engineers experienced in performing technology evaluations for a range of hazardous waste sites, including sites with petroleum contamination.

Table 5. Staffing Plan

Staff Member	Role (Labor Category)	Estimated Hours by Task		
		1 - Project Management	2 – IMCMS/ CA Report	3 – Post IMCMS/CA Report Support
Kevin Scott	START Program and Project Manager (Principal Professional)	16	12	8
Dave Berestka, PE	Supervising Lead Engineer (Principal Professional)	24	120	40
Chit Christian	Senior Engineer (Engineer IV)	24	100	40
Andrew Carlson	Engineer (Engineer II)	12	80	40
Heather Wood	Senior Geologist (Scientist IV)	4	40	8
Maggie Banh	Multimedia/GIS/Graphics (IT Professional III)	0	60	8
Carla Buriks	Work Plan and Technical Support (Principal Professional)	6	4	4
John Dirgo	START Quality Control Reviewer (Principal Professional)	2	8	4
Butch Fries	START Editorial Reviewer (Reports) (Technical Support Staff II)	4	8	4
Totals	**Project Total = 680**	**92**	**432**	**156**

Notes: IMCMS/CA = Interim Measure Corrective Measure Study/Detailed Cost Analysis; PE = Professional Engineer; START = Superfund Technical Assessment and Response Team

R5 START COST ESTIMATE
CONTRACT # EP S5 13 01
TDD No: 0020/S05-0020-1708-008

DATE:	August 31, 2017
PROJECT/SITE NAME:	Tower Standard LUST Site
TO:	Bob Egan
FROM:	Kevin Scott
TDD Ceiling Amount:	**$86,376.02** **% expended** 0% **Budget remaining** $ 86,376.02

Task #: 1 **Task Name/Description:** Project Planning and Support

	Labor Category	QUANTITY	UNIT	UNIT PRICE	AMOUNT
Labor Cost	Principal Professional	48	Hours	$127.54	$6,122.07
	Project Manager		Hours	$101.29	$0.00
	Scientist IV	4	Hours	$93.01	$372.03
	Scientist III		Hours	$82.35	$0.00
	Scientist II		Hours	$59.99	$0.00
	Scientist I		Hours	$43.80	$0.00
	Engineer IV	24	Hours	$103.34	$2,480.09
	Engineer III		Hours	$83.60	$0.00
	Engineer II	12	Hours	$56.70	$680.36
	Engineer I		Hours	$44.84	$0.00
	IT Professional III		Hours	$107.03	$0.00
	IT Professional II		Hours	$64.12	$0.00
	GIS Professional II		Hours	$55.69	$0.00
	Environmental Technician II		Hours	$28.60	$0.00
	Environmental Technician I		Hours	$22.58	$0.00
	Technical Support Staff II	4	Hours	$60.30	$241.20
	Technical Support Staff I		Hours	$36.61	$0.00
	Administrative Support		Hours	$46.28	$0.00
	SME 1 - Sr. Hydro *		Hours	$148.52	$0.00
	SME 2 - Sr. Env. Sci. *		Hours	$151.29	$0.00
	SME 3 - Sr. Env. Eng. *		Hours	$169.53	$0.00
	Subtotal of Labor Costs	**92**			**$9,895.75**
ODCs	Airfare				$0.00
	Hotel				$0.00
	Per diem				$0.00
	Rental Vehicle				$0.00
	Fuel				$0.00
	Tolls and Parking				$0.00
	POV mileage				$0.00
	Equipment Rental Costs				$0.00
	Field supplies				$0.00
	Other:				$0.00
	Other:				$0.00
	Other:				$0.00
	G&A on ODCs				**$0.00**
	Subtotal of ODC Costs				**$0.00**
SUBCONTRACTOR COSTS	**Non analytical subcontractor cost**				
					$0.00
					$0.00
					$0.00
	Analytical Subcontractor cost				
					$0.00
					$0.00
					$0.00
	Subtotal of Subcontractor Costs				**$0.00**
				Task Subtotal	**$9,895.75**

Task #: 2 **Task Name/Description:** MCMS/CA Draft and Final Report

	Labor Category	QUANTITY	UNIT	UNIT PRICE	AMOUNT
Labor Cost	Principal Professional	144	Hours	$127.54	$18,366.21
	Project Manager		Hours	$101.29	$0.00
	Scientist IV	40	Hours	$93.01	$3,720.31
	Scientist III		Hours	$82.35	$0.00
	Scientist II		Hours	$59.99	$0.00
	Scientist I		Hours	$43.80	$0.00
	Engineer IV	100	Hours	$103.34	$10,333.69
	Engineer III		Hours	$83.60	$0.00
	Engineer II	80	Hours	$56.70	$4,535.73
	Engineer I		Hours	$44.84	$0.00
	IT Professional III	60	Hours	$107.03	$6,422.01
	IT Professional II		Hours	$64.12	$0.00
	GIS Professional II		Hours	$55.69	$0.00
	Environmental Technician II		Hours	$28.60	$0.00
	Environmental Technician I		Hours	$22.58	$0.00
	Technical Support Staff II	8	Hours	$60.30	$482.40
	Technical Support Staff I		Hours	$36.61	$0.00
	Administrative Support		Hours	$46.28	$0.00
	SME 1 - Sr. Hydro *		Hours	$148.52	$0.00
	SME 2 - Sr. Env. Sci. *		Hours	$151.29	$0.00
	SME 3 - Sr. Env. Eng. *		Hours	$169.53	$0.00
	Subtotal of Labor Costs	**432**			**$43,860.34**
ODCs	Airfare				$0.00
	Hotel				$0.00
	Per diem				$0.00
	Rental Vehicle				$0.00
	Fuel				$0.00
	Tolls and Parking				$0.00
	POV mileage				$0.00
	Equipment Rental Costs				$0.00
	Field supplies				$0.00
	Other:				$0.00
	Other:				$0.00
	Other:				$0.00
	G&A on ODCs				**$0.00**
	Subtotal of ODC Costs				**$0.00**

R5 START COST ESTIMATE
CONTRACT # EP S5 13 01
TDD No: 0020/S05-0020-1708-008

DATE:	August 31, 2017				
PROJECT/SITE NAME:	Tower Standard LUST Site				
TO:	Bob Egan				
FROM:	Kevin Scott				
TDD Ceiling Amount:	**$86,376.02**	**% expended**	0%	**Budget remaining**	$ 86,376.02

SUBCONTRACTOR COSTS	**Non analytical subcontractor cost**					
						$0.00
						$0.00
						$0.00
	Analytical Subcontractor cost					
						$0.00
						$0.00
						$0.00
	Subtotal of Subcontractor Costs					**$0.00**
					Task Subtotal	**$43,860.34**

Task #: 3 **Task Name/Description:** Post IMCMS/CA Followup

	Labor Category	**QUANTITY**	**UNIT**	**UNIT PRICE**	**AMOUNT**
Labor Cost	Principal Professional	56	Hours	$127.54	$7,142.41
	Project Manager		Hours	$101.29	$0.00
	Scientist IV	8	Hours	$93.01	$744.06
	Scientist III		Hours	$82.35	$0.00
	Scientist II		Hours	$59.99	$0.00
	Scientist I		Hours	$43.80	$0.00
	Engineer IV	40	Hours	$103.34	$4,133.48
	Engineer III		Hours	$83.60	$0.00
	Engineer II	40	Hours	$56.70	$2,267.87
	Engineer I		Hours	$44.84	$0.00
	IT Professional III	8	Hours	$107.03	$856.27
	IT Professional II		Hours	$64.12	$0.00
	GIS Professional II		Hours	$55.69	$0.00
	Environmental Technician II		Hours	$28.60	$0.00
	Environmental Technician I		Hours	$22.58	$0.00
	Technical Support Staff II	4	Hours	$60.30	$241.20
	Technical Support Staff I		Hours	$36.61	$0.00
	Administrative Support		Hours	$46.28	$0.00
	SME 1 - Sr. Hydro *		Hours	$148.52	$0.00
	SME 2 - Sr. Env. Sci. *		Hours	$151.29	$0.00
	SME 3 - Sr. Env. Eng. *		Hours	$169.53	$0.00
	Subtotal of Labor Costs	**156**			**$15,385.28**
ODCs	Airfare				$0.00
	Hotel				$0.00
	Per diem				$0.00
	Rental Vehicle				$0.00
	Fuel				$0.00
	Tolls and Parking				$0.00
	POV mileage				$0.00
	Equipment Rental Costs				$0.00
	Field supplies				$0.00
	Other:_____				$0.00
	Other:_____				$0.00
	Other:				$0.00
	G&A on ODCs				**$0.00**
	Subtotal of ODC Costs				**$0.00**
SUBCONTRACTOR COSTS	**Non analytical subcontractor cost**				
					$0.00
					$0.00
					$0.00
	Analytical Subcontractor cost				
					$0.00
					$0.00
					$0.00
	Subtotal of Subcontractor Costs				**$0.00**
				Task Subtotal	**$15,385.28**

Total Labor Hours	**680**		
Total Labor Cost			$69,141.37
Average cost/labor hour		**$101.68**	
Total ODCs			$0.00
Total Subcontractor Costs			$0.00
Subtotal of All Costs			**$69,141.37**
Contingency (15%)			$10,371.21
Total			**$79,512.58**
AMOUNT NEEDED (Total minus remaining budget)			**-$6,863.44**